

**WHAT IS CLAIMED IS:**

1. A method for dyeing keratin fibers comprising, including in a composition, at least one luminescent semiconductive nanoparticle capable of emitting, under the action of a light excitation, radiation with a wavelength ranging from 400 nm to 700 nm.
2. The method according to Claim 1, wherein the at least one luminescent semiconductive nanoparticle comprises at least one metal chosen from Zn, Cd, and Hg and at least one metal chosen from S, Se and Te.
3. The method according to Claim 1, wherein the at least one luminescent semiconductive nanoparticle is chosen from cadmium selenide and cadmium sulphide.
4. The method according to Claim 1, wherein the at least one luminescent semiconductive nanoparticle comprises a core comprising at least one metal and at least one shell covering the core, wherein the shell comprises at least one metal other than the metal present in the core.
5. The method according to Claim 4, wherein the at least one luminescent semiconductive nanoparticle comprises a cadmium selenide core covered with a Zn sulphide shell.
6. The method according to Claim 1, wherein the at least one luminescent semiconductive nanoparticle can further be covered with at least one shell chosen from organic and inorganic shells.
7. The method according to Claim 6, wherein the at least one organic shell comprises at least one organic material chosen from polyethylene glycol, polyurethane, dextran, polyacrylic, polyvinylpyrrolidone, and polyvinylcaprolactone.
8. The method according to Claim 7, wherein the at least one organic shell comprises a mixture of dextran and polyethylene glycol.

9. The method according to Claim 6, wherein the at least one inorganic shell comprises at least one inorganic material chosen from alumina, silica, and clay.
10. The method according to Claim 9, wherein the at least one inorganic shell comprises a mixture of silica and alumina.
11. The method according to Claim 1, wherein the at least one luminescent semiconductive nanoparticle can be incorporated into polymer microbeads.
12. The method according to Claim 1, wherein the diameter of the at least one luminescent semiconductive nanoparticle ranges from 1 to 100 nm.
13. The method according to Claim 12, wherein the diameter of the at least one luminescent semiconductive nanoparticle ranges from 1 to 50 nm.
14. The method according to Claim 13, wherein the diameter of the at least one luminescent semiconductive nanoparticle ranges from 1 to 20 nm.
15. The method according to Claim 1, wherein the keratin fibers are human keratin fibers.
16. The method according to Claim 15, wherein the human keratin fibers are hair.
17. A dye composition comprising, in a medium that is suitable for dyeing, luminescent semiconductive nanoparticles capable of emitting, under the action of a light excitation, radiation with a wavelength ranging from 400 nm to 700 nm.
18. The composition according to Claim 17, wherein the at least one luminescent semiconductive nanoparticle comprises at least one metal chosen from Zn, Cd, and Hg and at least one metal chosen from S, Se and Te.
19. The composition according to Claim 17, wherein the at least one luminescent semiconductive nanoparticle is chosen from cadmium selenide and cadmium sulphide.

20. The composition according to Claim 17, wherein the at least one luminescent semiconductive nanoparticle comprises a core comprising at least one metal and at least one shell covering the said core, wherein the shell comprises at least one metal other than the metal present in the core.

21. The composition according to Claim 20, wherein the at least one luminescent semiconductive nanoparticle comprises a cadmium selenide core covered with a Zn sulphide shell.

22. The composition according to Claim 17, wherein the at least one luminescent semiconductive nanoparticle can further be covered with at least one shell chosen from organic and inorganic shells.

23. The composition according to Claim 22, wherein the at least one organic shell comprises at least one organic material chosen from polyethylene glycol, polyurethane, dextran, polyacrylic, polyvinylpyrrolidone, and polyvinylcaprolactone.

24. The composition according to Claim 23, wherein the at least one organic shell comprises a mixture of dextran and polyethylene glycol.

25. The composition according to Claim 22, wherein the at least one inorganic shell comprises at least one inorganic material chosen from alumina, silica, and clay.

26. The composition according to Claim 25, wherein the at least one inorganic shell comprises a mixture of silica and alumina.

27. The composition according to Claim 17, wherein the at least one luminescent semiconductive nanoparticle can be incorporated into polymer microbeads.

28. The composition according to Claim 17, wherein the diameter of the at least one luminescent semiconductive nanoparticle ranges from 1 to 100 nm.

29. The composition according to Claim 28, wherein the diameter of the at least one luminescent semiconductive nanoparticle ranges from 1 to 50 nm.

30. The composition according to Claim 29, wherein the diameter of the at least one luminescent semiconductive nanoparticle ranges from 1 to 20 nm.

31. The composition according to Claim 17, wherein the keratin fibers are human keratin fibers.

32. The composition according to Claim 31, wherein the human keratin fibers are hair.

33. The composition according to Claim 17, further comprising at least one surfactant.

34. The composition according to Claim 17, wherein the form of the composition is chosen from dyes, shampoos, conditioners, lacquers and hairsetting compositions.

35. A process for dyeing keratin fibers comprising applying to the fibers at least one dye composition comprising, in a medium that is suitable for dyeing, luminescent semiconductive nanoparticles capable of emitting, under the action of a light excitation, radiation with a wavelength ranging from 400 nm to 700 nm.

36. The process according to Claim 35, wherein the keratin fibers are human keratin fibers.

37. The process according to Claim 36, wherein the human keratin fibers are hair.